Introduction to Technology Education
Course Code: 21050

Rationale Statement:

Introduction to Technology Education is a significant part of society. Most careers call for some type of technology skills. Technology education brings deeper meaning to core content concepts while introducing students to various technologies, technical skills, critical thinking processes, and hands-on experiences. Students will become technologically literate problem solvers and creative thinkers.

Suggested Grade Level: 9-10

Topics Covered:
- Nature of Technology
- Technology & Society
- Design Process
- Energy & Power
- Transportation
- Manufacturing & Construction
- Communications

Core Technical Standards & Examples

Indicator #1: Analyze the scope and nature of technology	
Bloom's Taxonomy Level	**Standard and Examples**
Analyzing	**ITE.1.1 Examine the relationship between technology and other areas of study** *Examples:* • Identify scientific and mathematical principals relating to the construction of a product • Construct a technological product and identify scientific principals in the design • Write a short paper on how technology has impacted history

Understanding	**ITE.1.2 Understand the effects of technology on the environment** *Examples:* • List ways technology positively affects the environment • Identify five types of energy and a primary source of each of these energy types • Match the names of the various types of energy with the kind of pollution associated with it
Understanding	**ITE.1.3 Examine the relationship between the cultural, social, economic, and political effects of technology on society** *Examples:* • Present information on a current topic relating to social, economic, or technological forces, explaining how technology has influenced the issue • Research a law involving technology and identify related cultural, social, economic, and political issues • Choose a favorite invention and write a short paper describing how it influenced our society

Indicator #2: Use the system-thinking model (the feedback loop)	
Bloom's Taxonomy Level	**Standard and Examples**
Applying	**ITE.2.1 Apply the design process** *Examples:* • Draw, label, and explain the components of the system-thinking model • Employ the system-thinking model to improve the design of a simple technological product • Construct the product based upon specifications
Applying	**ITE.2.2 Apply engineering design** *Examples:* • Gather, organize, and interpret performance data relating to a simple technological product • Build a prototype design of a simple technological design • Produce an original design

Indicator #3: Solve problems using innovation, research, experimentation, and

troubleshooting	
Bloom's Taxonomy Level	**Standard and Examples**
Applying	**ITE.3.1 Use research and experimentation methods to solve problems** *Examples:* • Contrast a non-functional system to a functional system to identify differences • Utilize data collection in researching design refinement • Design a research method to collect data
Applying	**ITE.3.2 Use innovation and troubleshooting methods to solve problems** *Examples:* • Employ troubleshooting techniques to maintain a set of simple tools • Diagnose a system that is malfunctioning and use tools, materials, machines, and knowledge to repair it • Solve a problem with a given set of materials
Indicator #4: Apply manipulative skill sets	
Bloom's Taxonomy Level	**Standard and Examples**
Applying	**ITE.4.1 Understand biotechnologies** *Examples:* • Model a soil erosion control system • Design/Implement an experiment to show the difference in growing conditions • Produce Ethanol from biomass
Applying	**ITE.4.2 Understand energy and power technologies** *Examples:* • Demonstrate the Law of Conservation of Energy • Build a model that uses one type of energy and explain how it works • Construct a solar collector from household items
Applying	**ITE.4.3 Understand information and communication technologies**

	Examples: • Design a webpage • Develop a broadcast or presentation (audio, video, computer presentation) to inform a group of a topic • Depict a 3-D view drawing with CAD software
Applying	**ITE.4.4 Understand transportation technologies** *Examples:* • Explain the different types of transportation needed to get an agricultural product from the field to the consumer • Create a student traffic pattern to improve the safety of student traffic around the parking lots of the high school • Calculate the cost differences between public and personal transportation
Applying	**ITE.4.5 Understand manufacturing technologies and materials** *Examples:* • Create a presentation detailing the various types of manufacturing, explaining the importance of each • Set up a simple assembly line to produce a product • Market a product
Applying	**ITE.4.6 Understand construction technologies** *Examples:* • Compute amount of material needed to build a structure • Construct the structure according to specifications • Test the structure